Manges Cabin Roof Replacement
Summer 2007
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Start Date: June 4, 2007
Completion Date: July 12, 2007

Site description: Manges cabin roof consists of vertically laid 1"x12"x18' rough-cut pine boards. The roof pitch is steep and the overhang is approximately 6 feet. The roof is constructed of two layers of vertical board with staggered joints. In between the two layers of boards there was a layer of 30 lb. felt. 32 foot purlins support the roofing running parallel with the eave, and three 18' rafters run horizontally between northern and southern roofs.

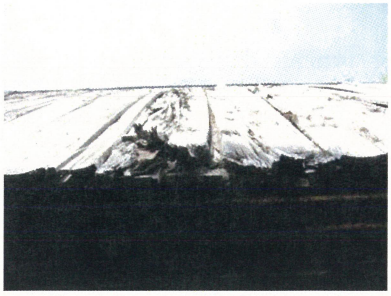
Project Objective: to remove all deteriorated roofing material and replace in-kind with new material.

Project Overview: WCHP staff removed all boards on the south side of the roof, one layer of 30 lb felt, and two and a half purlins. On the north side, WCHP removed only the top layer of boards and one layer of felt. All deteriorated materials were replaced and original materials in good condition were treated with wood preservative and reinstalled on the roof. A failing roof cap was removed and replaced in-kind (with the addition of 14" flashing underneath the cap). Three pine wedges on the south side of the roof which connected the horizontal rafters with the roof pulins were replicated and replaced by new pine wedges.

Materials:

30 lb. rolled felt
32' lodgepole pine purlins
18" rough cut pine boards
X-100 wood preservative with UV protection
14" galvanized ridge flashing
- West Epoxy for structural repairs
- Conserve Epoxy- non-structural repairs

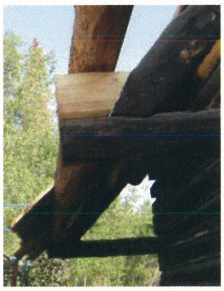
Project details: WCHP first set up scaffolding on the south side of the cabin. On that side, WCHP crew removed the top layer of boards and a layer of 30 lb felt.



Once the top layer of felt was removed the crew noticed water damage to the bottom layer of boards. The WCHP crew at first only removed damaged boards from the bottom layer, rather than removing all boards as they had done on the top layer. While removing the damaged bottom layer of boards, the crew noticed that there was also deterioration and rot on some of the purlins. Because of the poor condition of the purlins, the crew removed all the bottom boards so that they could replace two entire purlins that had deteriorated. In addition to replacing two entire purlins, the crew also completed a partial replacement on the lowest purlin.

The crew replaced six feet of the purlin with a lap joint and epoxy repair. For this lowest purlin and one other purlin, the crew also removed dead and decayed wood in sections and filled the cavity with epoxy.

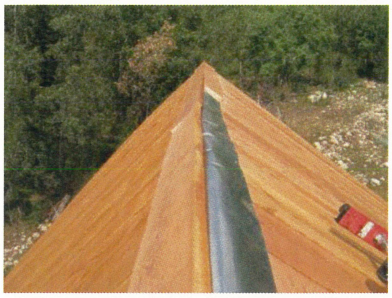
Following the purlin repair, the WCHP crew reinstalled bottom layer boards that were in good condition (after treating them with wood preservative on both sides) back onto the roof. Bottom boards that were deteriorated were replaced with new boards. The crew then laid down two new layers of 30 lb felt (instead of one layer) because they felt the additional layer would provide added protection to the roof and in no way detract from the appearance of the roof. The crew then treated the new boards with X-100 wood preservative on both sides to improve the longevity of the new boards. The WCHP crew also replaced three deteriorated pine blocks that filled the gap between the rafters and the lowest purlin. The originals were replicated in-kind, labeled, and placed in the same position as the originals.



The south side of the cabin was completed on July 2nd 2007.

The WCHP crew then began reroofing the north side of the cabin. The crew moved the scaffolding to the north side and removed only the top layer of boards and the felt. After removing these layers, the crew noticed that the lower layer of boards was in good condition and that none required replacement. Because the lower layer of boards was in such good condition and the purlins appeared to be in good condition from inside the cabin, the crew felt that the purlins also did not require replacement or repair. Before applying the new felt, the crew refastened with nails some of the lower boards which were loose. Like on the south side of the cabin, the crew used two layers of felt for added protection. Following the reapplication of the felt, the crew

replaced the top layer of boards with new rough-cut pine boards. As a last step, the crew trimmed all boards (top and bottom layers) by two inches to straighten the bottom edge of the roof and remove minor rot from the bottom layer. The WCHP crew then treated the cut ends with wood preservative.



The final step to the reroofing project was the replacement of the roof cap. The roof cap was replaced in-kind with the addition of 14" flashing. The WCHP crew nailed the flashing to the roof and covered it with a 10" x 1" pine board on either side (replication of the original system). The crew used 18' and 14' length boards on either side to create the needed 32' length. Joints for the 18' and 14' boards were staggered on either side to minimize the appearance of a seam.

The north side of the roof was completed on July 12th, 2007. The crew cleaned the site and removed all extra materials and waste.

All purlin replacements and repairs were marked with a WCHP 2007 engraving.